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ABSTRACT

In April of 1990, a three-day conference was convened at which 76 men and women from 18 countries representing a spectrum of government, business, labor, academia, the media, and the professions gathered to discuss how the United State should reorient its policies and relations toward other countries and international institutions to preserve the global environment. This document is a statement produced by the conference participants after the close of their discussions. The statement contends that three indivisibly linked global environmental trends together constitute an increasingly grave challenge to the habitability of the earth. These trends, which are discussed, are human population growth; tropical deforestations and the rapid loss of biological diversity; and global atmospheric change, including stratospheric ozone loss and greenhouse warming. The statement also outlines the goals and means of international cooperation and challenges. The United States must play a key leadership role in global environmental issues both by example and through international participation. (DB)

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# PRESERVING THE GLOBAL ENVIRONMENT

## THE CHALLENGE OF SHARED LEADERSHIP

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## PREFACE

On April 19, 1990, 76 men and women from 18 countries, representing a spectrum of government, business, labor, academia, the media, and the professions, gathered at Arden House, Harriman, New York for the Seventy-seventh American Assembly entitled *Preserving the Global Environment: The Challenge of Shared Leadership.* For three days the participants discussed how the United States should reorient its policies and relations toward other countries and international institutions to preserve our global environment. This was the third in a series of American Assembly programs exploring the changing global role of the United States in the 1990s.

This program was jointly sponsored by the World Resources Institute (WRI) and The American Assembly. Dr. Jesssica Tuchman Mathews, Vice President of WRI, served as director and edited the background papers prepared for the participants. Authors and titles of these papers, which will be compiled and published as a W.W. Norton book, are:

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| Daniel A. Sharp<br>James Gustave Speth | *Preface* |
| Jessica Tuchman Mathews | *Introduction and Overview* |
| Nathan Keyfitz | *Population Growth Can Prevent the Development That Would Slow Population Growth* |
| Kenton Miller<br>Walter V. Reid | *Deforestation and Species Loss* |
| Richard Elliot Benedick | *Protecting the Ozone Layer: New Directions in Diplomacy* |
| George W. Rathjens | *Energy and Climate Change* |
| Tom H. Tietenberg | *Managing the Transition: The Potential Role for Economic Policies* |
| Richard N. Cooper | *The World Economic Climate* |
| Peter H. Sand | *International Cooperation: The Environmental Experience* |
| Abram Chayes<br>Antonia H. Chayes | *Adjustment and Compliance Processes in International Regulatory Regimes* |
| Jessica Tuchman Mathews | *The Implications for U.S. Policy* |

Evening programs during this Assembly included an address by Maurice F. Strong, Secretary General, 1992 U.N. Conference on Environment and Development; and panels on "Arms, Conflict, and the Environment" (Lincoln P. Bloomfield, Professor of Political Science,

Massachusetts Institute of Technology, Moderator; Nicole Ball, Director of Analysis, The National Security Archive; Michael Klare, Director, Five College Program in Peace and World Security Studies; Kosta Tsipis, Director, Program in Science and Technology for International Security, Massachusetts Institute of Technology); and a panel on "The Common Environment of Eastern Europe" (Robert H. Pry, Director, International Institute for Applied Systems Analysis, Laxenburg, Austria, Moderator; Tamas Fleischer, Senior Research Fellow, Research Institute for World Economy of the Hungarian Academy of Science, Budapest; Andrzej Kassenberg, Institute of Geography and Spatial Economy, Polish Academy of Sciences, Warsaw; Jaromir Sedlak, Krupp Senior Associate, Institute for East-West Security Studies, New York).

Following their discussion, the participants issued this report on April 22, 1990; it contains both their findings and recommendations.

We gratefully acknowledge the support of the following organizations which helped to fund this undertaking:

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These organizations, as well as the World Resources Institute and The American Assembly, take no position on subjects presented here for public discussion. In addition, it should be noted that the participants took part in this meeting as private individuals and spoke for themselves rather than for the institutions with which they are affiliated.

We would like to express special appreciation in preparing for the fine work of the drafting committee of this report: Ian Burton, Harlan Cleveland, Charles Ebinger, T.N. Khoshoo, Carlisle F. Runge, Alexander Shakow, Bruce Smart, James Gustave Speth, and Jennifer Seymour Whitaker.

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The printing and distribution of this report has been funded by a special grant from CITIBANK and from The Pew Charitable Trusts.

## FINAL REPORT
## of the
## SEVENTY-SEVENTH AMERICAN ASSEMBLY

At the close of their discussions, the participants in the Seventy-seventh American Assembly, on *Preserving the Global Environment: The Challenge of Shared Leadership*, at Arden House, Harriman, New York, April 19-22, 1990, reviewed as a group the following statement. This statement represents general agreement; however, no one was asked to sign it. Furthermore, it should be understood that not everyone agreed with all of it.

Three indivisibly linked global environmental trends together constitute an increasingly grave challenge to the habitability of the earth. They are human population growth; tropical deforestation and the rapid loss of biological diversity; and global atmospheric change, including stratospheric ozone loss and greenhouse warming. These trends threaten nations' economic potential, therefore their internal political security, their citizens' health (because of increased ultraviolet radiation), and, in the case of global warming, possibly their very existence. No more basic threat to national security exists. Thus, together with economic interdependence, global environmental threats are shifting traditional national security concerns to a focus on collective global security.

The 1990s offer an historic opportunity for action that must not be allowed to slip. Not only do the global environmental trends pose an urgent threat to the planet's long term future, but the waning of the Cold War also lifts a heavy psychological and economic burden from both governments and individuals, freeing human, physical, and financial resources to meet the new challenge.

> The industrialized countries must prove through concrete action that they take environmental issues seriously.

There is evidence that developing countries are ready to become partners in this global endeavor. However, their willingness to act will depend on help from the industrialized countries to alleviate the poverty which is a major aggravating cause of population growth and environmental degradation. It will also depend on the industrialized countries' demonstrated commitment to reduce their heavy per capita

consumption of natural resources and ecological services. The industrialized countries, in short, must prove through concrete action that they take environmental issues seriously. The other side of the equation that determines environmental stress, which must be addressed, is population growth: 95 percent of which will otherwise occur in the developing countries.

The global response must therefore be launched as a mutual commitment by all countries. The certainty that all nations will share a common destiny demands that they work together as partners.

The global environmental challenge is fundamentally different from previous international concerns. Unlike the effort to avoid nuclear war that dominated international relations for the past forty-five years, success or failure will not hinge on the actions of governments alone. It will rest equally on the beliefs and actions of billions of individuals, and on the roles played by national and multinational business. The importance of individual behavioral change and the major new roles to be played by these non-governmental actors demand profound change in the institutions and mechanisms of international cooperation.

## POPULATION GROWTH

The degradation of the global environment is integrally linked to human population growth. More than 90 million people are added each year—more than ever before. On its present trajectory, the world's population could nearly triple its current size, reaching 14 billion before stabilizing. With an heroic effort, it could level off at around 9 billion. However, today's unmet need for family planning is huge: only 30 percent of reproductive age people in the developing world outside of China currently have access to contraception. Women's full and equal participation in society at all levels must be rapidly addressed.

Policy makers must recognize that actions taken during the critical decade of the 1990s will largely determine whether human population will double or triple before stabilizing. Nigeria, for example, could grow from about 30 million in 1950 to around 300 million in 2020—a tenfold increase in one lifespan. In the absence of rapid progress in family planning, future governments may be tempted to restrict human freedom in order to deal with unmanageable population increases.

The pressure of population on the environment is bound up with poverty: in the Sahel as well as other areas threatened by famine and

environmental deterioration, poor people have no other option but to consume all available local resources. Sustaining the environment thus requires a balance between wise environmental management, active efforts to slow population growth, and equitable economic development.

No Administration can be regarded as serious about the environment unless it is serious about global population growth.

In many developing countries, population pressures on the land threaten national security as people migrate in search of sustenance, aggravating territorial disputes and often creating violent conflict.

While population pressures affect the planet as a whole, they must be individually addressed by each nation and its citizens. Countries must make their own assessments about population levels and growth, ordering their development priorities and incentives accordingly. Industrialized nations can offer much needed technical support and experience in family planning to help developing nations and individual couples achieve their goals.

Despite its complexities, the problem clearly calls for several policy initiatives aimed at:

- Universal access to family planning by the end of the decade—this will require a global expenditure rising to reach $10 billion a year by the year 2000.
- Giving priority to investment in education for women and in bringing women into full economic and political participation.
- Greatly increased research to provide a wide array of safer, cheaper and easier birth control technologies.
- Stepped up mass communication aimed at increasing support for family planning.

Since 1981, the United States has retreated from the strong leadership role on world population it exercised in the two previous decades. The ideological debate has destroyed a bipartisan consensus that laid the groundwork for crucial international cooperation. Money for research has fallen sharply, and the global family planning effort has been gravely weakened. Positive U.S. leadership needs to be reestablished, through the restoration of U.S. support for the major international population and family planning organizations and annual population assistance budgets more commensurate with global requirements. Ultimately, no Administration can be regarded as serious about the environment unless it is serious about global population growth.

## TROPICAL DEFORESTATION AND LOSS OF BIODIVERSITY

Tropical deforestation and the loss of a diverse set of species rob the earth of its biological richness, which undermines long-range ecological security and global economic potential. Nearly 20 million hectares of tropical forests are lost every year. Conservative estimates put the extinction rate at one hundred species per day: a rate unmatched since the disappearance of the dinosaurs. Escalating human populations, deforestation, disruptions of watersheds, soil loss, and land degradation are all linked in a vicious cycle that perpetuates and deepens poverty, and often creates ecological refugees.

Because deforestation and the loss of biodiversity result first from mismanagement at the local level, effective interventions must also occur at this level, building upon local norms, traditions, and cultures that will promote sustainable management. Recent efforts to restore common property management by indigenous peoples in the Amazon basin of Colombia and Ecuador are notable initiatives. This approach respects the rights of indigenous populations and the wisdom of their institutions, and is likely to be low in cost.

At the national level, effective management will require a commitment to conservation, land use planning, secure property rights, and sustainable agroforestry, so that forests provide a continued flow of goods and services with minimal ecological disruption. Timber harvesting must reflect long-term scarcity values, consistent with full environmental and social cost accounting. Tropical forests are often sacrificed for a fraction of their real value by nations in search of quick sources of foreign exchange. While "debt-for-nature" swaps by the private sector are helpful and should be expanded, they are unlikely to be sufficient *either* to save forest ecosystems *or* to relieve debt loads. However, the opportunity exists to include government debt in this process and to complement the international debt strategy by linking reduction in public sector debt to policy reforms with environmental benefits.

What policy goals and means are appropriate locally, nationally, and internationally?

• While respecting local and community property rights which promote ecologically sound management, national governments can help most by eliminating distorted economic incentives that encourage mismanagement, such as the granting of property titles in return for forest clearing, and below-cost timber sales. International

institutions should encourage such reforms which, at the same time, relieve the pressure on remaining tropical forests and help bring about their sustainable exploitation.

- Forest conservation is not enough; it must be accompanied by aggressive, ecologically sensitive reforestation and land rehabilitation, especially on arid lands and where fuelwood demands are high.

- These measures will be costly. Current international funding levels (such as called for in the Tropical Forest Action Plan) should be increased tenfold from about $1 billion to $10 billion. The additional funds will only achieve their goals if accompanied by increased training and broad non-governmental participation in the planning process.

- An international Strategy and Convention on Biodiversity would provide a means to actively engage many institutions, and to formulate a global action plan for identifying and funding critical needs in ecological "hot spots." The Strategy and Convention should be readied for the 1992 Conference on Environment and Development.

- The World Bank in its lending policies should be sensitive to encouraging land use and forest practices that are consistent with environmental sustainability.

## ATMOSPHERE AND ENERGY

Human activities are substantially changing the chemical composition of the atmosphere in a way that threatens the health, security, and survival of people and other species, and increases the likelihood of international tensions. Depletion of the ozone layer and global warming are two salient examples, but other unforeseen effects cannot be ruled out.

### Ozone

The depletion of the ozone layer by chlorofluorocarbons (CFCs) allows increased ultraviolet B radiation from the sun to enter the earth's atmosphere, threatening human health and the productivity of the biosphere.

The 1987 international agreement to limit production and use of CFCs in the Montreal Protocol to the Vienna Convention was a landmark achievement and a promising precedent for international agreements on other global environmental issues. However, the Protocol itself is an unfinished story. Full participation by the less

developed countries has not yet been achieved, issues of acceptable alternatives and technology transfer remain unresolved, and the treaty itself must be revised to require complete elimination of CFC production and use by industrialized countries no later than 2000. How these issues are resolved will have important implications for addressing climate change and other global ecological problems.

**The Greenhouse Effect**

There is a scientific consensus that rising concentrations of greenhouse gases will cause global climatic change. Atmospheric levels of carbon dioxide have increased 25 percent since the beginning of the industrial era. Most of the $CO_2$ emissions derive from energy use. About 90 percent of the world's current energy use is met by the burning of carbon-based fuels. Tropical deforestation is also a major source of carbon dioxide. Other greenhouse gases, methane, nitrous oxides, and CFCs, are collectively as important as carbon dioxide in their greenhouse effect and are increasing more rapidly.

Therefore, the earth is set to experience substantial climate change of unknown scale and rapidity. The consequences are likely to include sea level rise, greater frequency of extreme weather events, disruption of ecosystems, and potentially vast impacts on the global economy. The processes of climate change are irreversible and major additional releases could be triggered from the biosphere by global warming in an uncontrollable self-reinforcing process (e.g. methane release from unfrozen Arctic tundra).

"Insurance" actions to reduce $CO_2$ emissions and those of other greenhouse gases are therefore needed, starting now. The associated risks are much less than those of not acting and in some cases require no net increase in cost.

Past and present contributions to greenhouse gases come largely from the industrialized countries. However, the less developed countries already contribute significantly through deforestation, and their share will increase sharply with development and expansion of fossil fuel use, especially coal.

The international community should work quickly toward a multilateral framework ultimately involving national targets for reducing emissions of carbon dioxide and the other greenhouse gases. There is no need for the industrialized countries to await universal agreements. They should act now: individually and/or in concert. Indeed, some in Western Europe have already begun.

Initial steps involve the deployment of a range of policy

instruments to achieve energy conservation and efficiency, demand-side management, and changes in the fuel mix. A considerable expansion of support for research and development into alternative energy sources is urgently required. There may be a future for nuclear energy if credible assurances can be provided with respect to safety, waste disposal, nuclear proliferation, and comparative costs.

This American Assembly strongly endorses the global target ...of a 20 percent reduction in $CO_2$ emissions by 2005...

This American Assembly strongly endorses the global target now under study by the Intergovernmental Panel on Climate Change (IPCC) of a 20 percent reduction in $CO_2$ emissions by 2005 as a minimum goal.

## GOALS AND MEANS OF INTERNATIONAL COOPERATION

Global environmental damage threatens the physical as well as economic security of individuals and nations without exception, giving new reality to traditional concepts of collective security. Environmental threats are also likely to create new sources of conflict. The risks of collective insecurity call for an unprecedented strategy of international cooperation.

The health of the global environment is the product of behavior by billions of individuals. National governments must increasingly take into account the views of their citizens as they design policies to confront environmental concerns, and can increasingly rely on the influence and impact of changes in individual behavior. Coalitions of non-governmental actors can be a powerful force in hammering out bargains, hardening scientific consensus, and developing legal concepts and new institutional frameworks. Governments and international institutions can then set widely applicable norms and standards.

In this new international context, institutions and mechanisms are becoming more fluid: the complex and swiftly evolving environmental dilemmas demand it. Thus we need to seek global consensus in the United Nations as work proceeds in many other arenas to reach more limited agreements. These include unilateral action by individual governments, small groups of nations bargaining on discrete issues, an active role by companies and non-governmental organizations (NGOs), regional arrangements, and hybrid public-private

partnerships (such as the collaboration between pharmaceutical companies and the World Health Organization on new birth control measures—a pattern that should be copied for ecological restoration). Actions and decisions should always be taken at a level as close as possible to the people affected by them.

Within the UN system, the United Nations Environment Programme (UNEP) has demonstrated its capacity to serve as innovator, monitor, and catalyst—notably in the Mediterranean cleanup and the 1987 ozone treaty. UNEP should be strengthened and much more dependably funded to continue this important role.

Among key priorities for international action are the following:

**Establishing Norms and Setting Goals**

The first task of the international community as a whole is to develop a broad consensus on norms of global survival, and to establish specific environmental goals—for example, boundary conditions on pollution of the atmospheric commons, targets for the protection of biodiversity, and population policy goals—toward which public and private efforts should be directed.

**Meeting the Costs**

Industrial countries must make major investments to improve their own performance. Developing countries must, in their own interest, increasingly incorporate sound environmental practices as part of their own development programs. Resolving the debt overhang is crucial. But industrial countries will also need to make a special effort to expand flows to developing countries if needed investments in global environmental priorities—slowing population growth, protecting the ozone layer, limiting greenhouse gas emissions, preserving biodiversity, and many other non-global environmental needs—are to occur. Because of resource scarcities, developing countries are otherwise unlikely to act.

The UNEP, United Nations Development Program (UNDP), and the World Bank have proposed a $1 billion, three-year pilot facility for this purpose; it deserves strong support. Much larger resource flows will be needed in the future. As a source of such funds, serious consideration should be given to establishing an international fee (for example, on carbon use) because conventional sources of finance are simply not adequate to, or appropriate for, the task of reducing global environmental risks.

### Policy Reforms

While additional financing is required, many other measures can make a major impact. International agreement is needed to introduce into national accounting methods the full costs incurred in depletion of natural resources and use of the global commons; this could serve as a valuable guide to all nations' decision makers to use scarce resources well. International trade is a major source of revenues for development; the current Uruguay Round of the General Agreement on Tariffs & Trade (GATT) negotiations should be used to strengthen environmental considerations in trade policy. All international financial and planning institutions should take account of how policy recommendations affect environmental policy.

### Technical Assistance and Research

All countries need additional environmental expertise and research. An International Global Environmental Service Corps should be established to provide technical help and build local environmental capacity.

### Expanding the Role of the Private Sector

Government and international organizations have special responsibilities, but the private sector may have the most impact. Where central planners and government bureaucracies have tried to replace free markets, neither economic development nor environmental protection has been well served.

The private sector should be spurred to anticipate—and benefit from—the changing structure of regulation and market demand by developing environmentally superior technologies. Governments need to encourage such environmental entrepreneurship through the use of taxes, subsidies, and other signals, including codes of conduct. An international structure of targets and standards is needed to support this approach.

Within the private sector, an enormous number of citizen organizations now play an important part in establishing priorities. In all the actions we propose, active and early participation by representative groups at the local, national, and international level should be encouraged.

### The 1992 U.N. Conference on Environment and Development

None of these environmental challenges can be met without a new era of heightened cooperation between the industrial and developing countries. This will come in many shapes and forms, using *ad hoc* coalitions of governments, active participation of NGOs and the private sector, and other new arrangements designed to meet varying needs.

The 1992 conference provides a unique opportunity to build on these initiatives to advance international action on the points noted here—in short, to achieve a global compact for environmental protection and economic progress. The conference should affirm that slowing population growth is an integral part of meeting the environment and development challenge. It should agree on how the additional resource needs of the decade should be met. It should establish a new official methodology for calculating national income accounts. And it should complete legal agreements on conventions already under negotiation—for protection of the atmosphere, and biological diversity.

## A CHALLENGE TO THE UNITED STATES

As the world's largest economic power and consumer of environmental resources, the United States must play a key leadership role both by example and through international participation. This calls for strong action at every level from private households to the White House. Change is difficult and not cost free. It will take commitment and courage. But the long term benefits will be worth every penny.

Essential to this drive is the development of a national environmental strategy, through the joint efforts of government, private industry, NGOs, and individual leaders. It should be aimed at global goals that include:

- A halt to the buildup of greenhouse gases;
- A lower per capita environmental cost of industrial and agricultural practices and consumption patterns, particularly in the United States and other wealthy nations;
- Slowing and then reversing deforestation;
- A drastic reduction in the rate of human-caused species extinction; and,
- Stabilization of world population before it doubles again.

To develop and carry out such a strategy will require integration of

policies and more effective coordination of agencies within the U.S. government, and a major review should be launched to determine the needed changes. Equally important, the strategy can benefit from close cooperation between private industry and environmental experts to identify, develop, and adopt environmentally superior technologies.

> ...enough is known about the risks of global warming and climate change to justify an immediate U.S. policy response.

With its preeminent scientific research capacity, the United States is in a position materially to aid development, improve the environment, and increase the planet's carrying capacity. Government research and development funding should be shifted from a preoccupation with defense to greater concern for the environment, to increase knowledge of natural phenomena and trends, to expand our understanding of the human dimensions of global change, and to develop more benign technologies, particularly in energy, manufacturing, and agriculture. Incentives for private environmentally-related research and development should also be considered.

In addition to lending strong support to the multilateral initiatives identified above, U.S. action is needed in the following areas:

**Adopt New Policies on Global Warming and Energy**

Despite considerable uncertainties, enough is known about the risks of global warming and climate change to justify an immediate U.S. policy response. Without waiting for international consensus or treaties, the United States should take actions to reduce substantially its emissions of carbon dioxide, CFCs, and other greenhouse gases. The United States should promote a global phase-out of CFC production by 2000. U. S. energy strategy should emphasize reducing fossil fuel use through aggressive energy efficiency improvements, especially in transportation and in the production and use of electicity, backed by greater efforts to introduce renewable energy sources. Research on nuclear energy should be pursued to determine whether designs can be developed that might resolve safety and proliferation concerns and restore public and investor confidence.

In addition to performance standards and other regulatory approaches, economic incentives are essential to achieving energy efficiency. Most important is a large, phased-in increase in the federal tax on gasoline and the adoption of a carbon dioxide emissions fee applicable to users of fossil fuels. To avoid competitive imbalances, other industrial nations should be urged to adopt similar policies.

**Strengthen Cooperation with the Developing Countries and Eastern Europe**

Recognizing that meeting many of today's environmental challenges will require major actions by the developing countries, the United States should launch new programs and strengthen existing ones that can encourage and support these undertakings. Operating in concert with international partners whenever appropriate, these programs should: 1) provide strong financial and other support for universal access to family planning and contraceptive services, accompanied by efforts to improve the status of women and their employment opportunities; 2) launch major new financing initiatives aimed at facilitating developing country participation in international negotiations, and at meeting the large need for investments in sustainable forest management, biodiversity protection, watershed rehabilitation, fuelwood production, and techniques adapted to the needs of small-scale farmers; 3) facilitate the transfer of needed technology, expertise, and information in energy, environment, and population; 4) assist the developing countries with training and capacity building both in government and in NGOs; and 5) redeploy a substantial fraction of military and security-related assistance to help developing and East European countries to alleviate their environmental problems. Two important objectives of these efforts should be to make improved technologies available to developing countries at affordable costs, and relatedly, to assist in finding environmentally acceptable ways of meeting their energy needs.

> Most important is a large, phased-in increase in the federal tax on gasoline...

Recent political changes in Eastern Europe afford an immediate opportunity to reduce environmental stress of local and global importance. Resolving the region's severe environmental problems requires collaboration and assistance from the United States, including the private sector. Such collaboration is a commercial opportunity, and should be one of the more economically efficient ways of reducing environmental degradation. It is vital, however, that the needed transfer of technology and funds from the West should not be made at the expense of resource flows to the developing countries.

**Revise Agricultural and Forestry Policies**

The United States, through negotiations abroad as well as unilateral actions at home, should phase out agricultural subsidies

that encourage overproduction, excessive use of chemical fertilizers and pesticides, and mismanagement of water resources. Eliminating overproduction and adopting full cost pricing will open U.S. and other markets to developing country producers who enjoy a natural comparative advantage, thus aiding their economic development and intervening in the poverty-population-environment degradation cycle. Similarly, U.S. national forestry policies should be amended to eliminate the federal subsidization of timber sales at below market prices, and jointly with Canada, to conserve the last remnants of old growth temperate rainforests.

## A FINAL WORD

On this Earth Day 1990, we call attention to the need for immediate international action to reverse trends that threaten the integrity of the global environment. These trends endanger all nations and require collective action and cooperation among all nations in the common interest. Our message is one of urgency. Accountable and courageous leadership in all sectors will be needed to mobilize the necessary effort. If the world community fails to act forcefully in the current decade, the earth's ability to sustain life is at risk.

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## THE AMERICAN ASSEMBLY

***Preserving the Global Environment: the Challenge of Shared Leadership***
**April 19-22, 1990**
**Arden House, Columbia University**

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